QUALITY CONTROL REPORTS FOR

WET MIX MACADAM(WMM)

CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

An ISO 9001:2008 Certified Company

NABL - Accredited Laboratory as per ISO / IEC-17025 : 2005

JAS-ANZ BSCIC ISO 9001 REGISTERED

Job No.: CTCE/BBMP/KRIDL/WNo.13/WMM/Gradation/2015-16

11.01.2016

GRADATION FOR WMM
MORTH TABLE-400-11

Customer : **Asst. Executive Engineer,** Shettyhalli Sub Division, BBMP, Bangalore.

Agency : **Technical Manager (West),** KRIDL, PIU, Bangalore.

Name of Work : Improvements and Asphalting to Aswathkatte Main Road Basaveshwara Road and other roads in Mallasandra, Ward No. 13, SSD, BBMP, Bangalore.

Reference : EE/DD/WO/445/2012-13 Dated: 08.03.2013

Date of Testing : 11.01.2016

Material : WMM

Sample ID : WMM Layer

Oven Dry Wt (gm): 7730

Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Spec.Limits
53	0	0	0	100	100
45	285	285	3.7	96.3	95-100
22.4	2555	2840	36.7	63.3	60-80
11.2	1250	4090	52.9	47.1	40-60
4.75	990	5080	65.7	34.3	25-40
2.36	895	5975	77.3	22.7	15-30
0.600	755	6730	87.1	12.9	8-22
0.075	620	7350	95.1	4.9	0-8

Note:

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23/14, 7th Cross, 3rd Stage,
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Basaveshwaranagar,
Bangalore-560079.

AE-13

ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
ಶಿವಹಳ್ಳಿ ಉಪವಿಭಾಗ, ದಾಸರಹಳ್ಳಿ ವಲಯ
ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ
ಎಸ್.ಎಂ ರಸ್ತೆ, ರವೀಂದ್ರನಗರ, ಬೆಂಗಳೂರು

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Reference : EE/DD/WO/445/2012-13 Dated: 08.03.2013

Date of Testing : 11.01.2016

Material : WMM

Sample ID : WMM Layer Oven Dry Wt (gm): 7655

Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Spec.Limits
53	0	0	0	100	100
45	215	215	2.8	97.2	95-100
22.4	2510	2725	35.6	64.4	60-80
11.2	1225	3950	51.6	48.4	40-60
4.75	1135	5085	66.4	33.6	25-40
2.36	880	5965	77.9	22.1	15-30
0.600	795	6760	88.3	11.7	8-22
0.075	625	7385	96.5	3.5	0-8

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ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
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Reference : EE/DD/WO/445/2012-13 Dated: 08.03.2013

Date of Testing : 11.01.2016

Material : WMM

Sample ID : WMM Layer Oven Dry Wt (gm): **7400**

Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Spec.Limits
53	0	0	0	100	100
45	190	190	2.6	97.4	95-100
22.4	2525	2715	36.7	63.3	60-80
11.2	1265	3980	53.8	46.2	40-60
4.75	915	4895	66.1	33.9	25-40
2.36	845	5740	77.6	22.4	15-30
0.600	745	6485	87.6	12.4	8-22
0.075	525	7010	94.7	5.3	0-8

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Job No.: CTCE/BBMP/KRIDL/WNo.13/WMM/AIV/2015-16 12.01.2016

Aggregate Impact Value

IS: 2386 Part IV

Customer	**Asst. Executive Engineer,** Shettyhalli Sub Division, BBMP, Bangalore.
Agency	**Technical Manager (West),** KRIDL, PIU, Bangalore.
Name of the Work	Improvements and Asphalting to Aswathkatte Main Road Basaveshwara Road and other roads in Mallasandra, Ward No. 13, SSD, BBMP, Bangalore.
Reference	EE/DD/WO/445/2012-13 Dated: 08.03.2013
Sample ID	WMM Layer
Type of Mix	Wet Mix macadam
Date of Testing	12.01.2016

Sl No.	Details	Trial No. 1	Trial No. 2	Average
1	Total weight of aggregate sample filling the cylindrical measure = W_1 g	387	386	
2	Weight of agregate passing 2.36 mm sieve after the test = W_2 g	85	86	
3	Weight of aggregate retained 2.36 mm sieve after the test = W_3 g	302	300	
4	Aggregate Impact value = percent fines	21.96	22.28	
	100* (W_2/W_1)%			22.12

Comments:

→ Maximum allowable Aggregate Impact value for Wet mix Macadam is 30%

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Job No.: CTCE/BBMP/KRIDL/WNo.13/WMM/AIV/2015-16 12.01.2016

Aggregate Impact Value

IS: 2386 Part IV

Customer	**Asst. Executive Engineer,** Shettyhalli Sub Division, BBMP, Bangalore.
Agency	**Technical Manager (West),** KRIDL, PIU, Bangalore.
Name of the Work	Improvements and Asphalting to Aswathkatte Main Road Basaveshwara Road and other roads in Mallasandra, Ward No. 13, SSD, BBMP, Bangalore.
Reference	EE/DD/WO/445/2012-13 Dated: 08.03.2013
Sample ID	WMM Layer
Type of Mix	Wet Mix macadam
Date of Testing	12.01.2016

Sl No.	Details	Trial No. 1	Trial No. 2	Average
1	Total weight of aggregate sample filling the cylindrical measure = W_1 g	387	388	
2	Weight of agregate passing 2.36 mm sieve after the test = W_2 g	85	86	
3	Weight of aggregate retained 2.36 mm sieve after the test = W_3 g	302	302	
4	Aggregate Impact value = percent fines	21.96	22.16	
	100* (W_2/W_1)%			22.06

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Comments:

→ Maximum allowable Aggregate Impact value for Wet mix Macadam is 30%

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AG-13

ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
ಲೆಬ್ಬಹಳ್ಳಿ ಉಪವಿಭಾಗ, ದಾಸರಹಳ್ಳಿ ವಲಯ
ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ
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Job No.: CTCE/BBMP/KRIDL/WNo.13/WMM/S-T/2015-16 12.01.2016

DETERMINATION OF FLAKINESS INDEX & ELONGATION INDEX OF COARSE AGGREGATES

Customer	**Asst. Executive Engineer,** Shettyhalli Sub Division, BBMP, Bangalore.
Agency	**Technical Manager (West),** KRIDL, PIU, Bangalore.
Name of Work	Improvements and Asphalting to Aswathkatte Main Road Basaveshwara Road and other roads in Mallasandra, Ward No. 13, SSD, BBMP, Bangalore.
Reference	EE/DD/WO/445/2012-13 Dated: 08.03.2013
Technical Reference	IS 2386(Part 1) 1963 (RA 2011)
Type of Mix	Wet Mix Macadam
Sample ID	WMM Layer
Date of Testing	12.01.2016

Civil-Tech Consultants & Engineers Bangalore

Result : Flakiness Index = **11.53%**

Elongation Index = **13.84%**

Result : Combined Flakiness & Elongation index **25.37%**

Comments:

Maximum allowable Flakiness & Elongation Index for Wet Mix Macadam is 30%

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BE-13
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Job No.: CTCE/BBMP/KRIDL/WNo.13/WMM/S-T/2015-16 12.01.2016

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Technical Reference	IS 2386(Part 1) 1963 (RA 2011)
Type of Mix	Wet Mix Macadam
Sample ID	WMM Layer
Date of Testing	12.01.2016

Civil-Tech Consultants & Engineers Bangalore

Result : Flakiness Index = **11.72%**

Elongation Index = **13.25%**

Result : Combined Flakiness & Elongation index **24.97%**

Comments:

Maximum allowable Flakiness & Elongation Index for Wet Mix Macadam is 30%

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